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91 RF 3418

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BRETZKE, J.C		
BURLINGAME, A.H		
COPP, R.D.		
CROUCHER, D.W		
DAVIS, J.G.		
EVERED, J.E.		
FERRERA, D.W		
FERRIS, L.R.		
FRAIKOR, F.J.		
FRANCIS, G.E.		
GOODWIN, R.		
HEALY, T.J.		
IDEKER, E.H.		
JENS, J.P.		
KEELE, P.B.		
KERSH, J.M.		
KIRBY, W.A.		
KIRKEBO, J.A.		
LEE, E.M.		
MAJESTIC, J.R.		
MATHEWS, T.A.		
MEURRENS, B.E.		
MORGAN, R.V.		
NORTH, P.		
PALMER, L.A.		
POTTER, G.L.		
PIZZUTO, V.M.		
RHOADES, J.J.		
SAFFELL, B.F.		
SWANSON, E.R.		
WIEBE, J.S.		
WILKINSON, R.B.		
WILLIAMS, R. E.		
WILSON, J. M.		
YOUNG, E.R.		
ZANE, J. O.		
Frick, L. JO	X	
Reno, C. D.	X	X
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Shaw, D	X	X
ERWM	X	X
CORRES CONTROL	X	X
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UCNI	X	X
UNCLASSIFIED	X	X
CONFIDENTIAL		
SECRET		

AUTHORIZED CLASSIFIER SIGNATURE
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DATE 6/10/91

IN REPLY TO LTR NO.

PC#
LTR APPROVALS
L.J.O.
J.E.E.
ORIG & TYPIST INITIALS
JEE/LMC

RF 46469 (Rev. 2/91)

8905

EG&G ROCKY FLATS

EG&G ROCKY FLATS, INC.
ROCKY FLATS PLANT, P.O. BOX 464, GOLDEN, COLORADO 80402-0464 • (303) 966-7000

June 19, 1991

91-RF-3418

Robert M. Nelson, Jr.
Manager
DOE, RFO

Attn: T. M. Powell

REVISED DOCUMENTATION FOR WETLANDS INVOLVEMENT AT 881 HILLSIDE - JEE-0094-91

On May 9, 1991, EG&G transmitted to you draft documents related to impacts to wetlands from construction of the Phase II Interim Remedial Action at OU 1 (881 Hillside). The drafts have been reviewed by your staff and revised accordingly. This letter transmits the following final documents for DOE's use:

- Public Notice (per 1022.14(b)) for publication in the Federal Register (Attachment 1);
- Wetlands Assessment (per 1022.12), (Attachment 2); and
- Letter to the Corps of Engineers requesting a determination of the applicability of the Nationwide Section 404 Permit to this project (Attachment 3).

DOE regulations (10 CFR 1022) require preparation of a Wetlands Assessment describing the impact to wetlands as part of an EA, but since the issue was not anticipated when the EA was prepared, a separate wetlands assessment document needs to be issued. Section 1022 also requires a Public Notice of proposed involvement in wetlands for any project involving wetlands. The Public Notice must be published in the Federal Register at least 15 days prior to taking any action in wetlands.

In addition, because wetlands at RFP have been claimed by the U.S. Army Corps of Engineers as falling under their jurisdiction, it is necessary to obtain from the Corps a determination regarding the applicability of the Nation-wide Section 404 Permit for activities in waters of the United States.

Construction of the OU 1 Interim Remedial Action, called for in the Inter-Agency Agreement, is scheduled to start September 3, 1991. In order to support this schedule, the Public Notice should appear in the Federal Register as soon as possible.

Section 1022 requires DOE to "take appropriate steps to inform Federal, State and local agencies and persons or groups known to be interested in or affected by the proposed . . . action." The Wetlands Assessment would be a useful mechanism to inform those officials.

ADMIN RECORD

A-OU01-000929

Please contact Steve Nesta at 273-6076, or Bill Moore at 273-6217, for further assistance or if you have any questions.

J. E. Evered, Director
Environmental Management
EG&G Rocky Flats

WAM:lmg

Orig. and 1cc - R. M. Nelson, Jr.

Attachments:
As Stated

cc:
R. J. Schassburger (DOE)
J. M. Kersh (EG&G)

Attachment 1

Text for Federal Register Notice for Wetland Involvement for 881 Hillside Remedial Action Construction Impacts on South Interceptor Ditch Wetlands

Wetland Involvement Notification for Remedial Action at 881 Hillside, Rocky Flats Plant, Golden, CO

AGENCY:

Department of Energy

ACTION:

Notice of Wetland Involvement

SUMMARY:

The Department of Energy (DOE) proposes to construct an interim measure/interim remedial action under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)/Resource Conservation and Recovery Act (RCRA) involving construction of a system to collect, pump and treat groundwater at the 881 Hillside (Operable Unit 1) at the DOE's Rocky Flats Plant north of Golden, CO. Construction of the groundwater collection system will destroy up to approximately 1500 feet of the South Interceptor Ditch (SID), a man-made feature constructed as part of pollution control action. The SID is located in the Woman Creek drainage on a hillside above the Creek and was built to collect potentially-contaminated runoff from the southern portion of the Plant and transport it to Pond C-2 for subsequent treatment and release to local drainages. Wetland vegetation has become established at intermittent locations in the SID where pools of standing water remain for sufficient periods of time. Wetland area in the length of the SID from a point due south of 881 Building to C-2 Pond is approximately 0.15 acres (*Environmental Assessment for 881 Hillside [High Priority Sites] Interim Remedial Action*, page 4-6, USDOE, January, 1990); approximately half that amount will be affected by the proposed action.

The proposed action is excavation for, and construction of, a 2500-foot long French drain upslope of the SID and Woman Creek, installation of pumps and water transmission lines, and construction of a treatment plant and storage tanks. A trench will be excavated two-to-fourteen feet into bedrock across the 881 Hillside roughly parallel to the SID. The French Drain piping will be laid in the trench and an impermeable liner will be installed on the down-gradient side of the pipe prior to backfilling of the trench. The sides of the trench will be sloped to prevent caving during construction. For a distance of up to approximately 1500 feet, the trench and SID are close enough that the sloped excavation of the trench will overlap the SID, requiring the destruction of that portion of the SID and the attendant wetlands.

Water collected in the French Drain will be pumped approximately 900 feet through a buried pipeline directly up the Hillside to a collection tank. From the tank, it will flow to an adjacent treatment facility and then into a post-treatment holding tank. Treated water will be released through a second buried pipe to the SID at a point south of 881 Building.

During construction of the French Drain, a bypass will be built to conduct SID flows around the project area, protecting the normal supply of water to SID wetlands downstream of the construction site. Thus, the downstream wetlands should not be adversely affected by the project.

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During the period of construction, the affected wetlands will be totally destroyed. Construction is expected to start in the summer of 1991 and be completed by spring, 1992. DOE proposes to reconstruct the destroyed portion of the SID after construction of the French Drain and allow the wetlands to re-establish themselves in the same manner that they established themselves after the SID was originally constructed (i.e., naturally). No permanent loss of wetlands is expected to occur as a result of this proposed action. Operation of the remedial action may, in fact, enhance future wetlands in the SID by increasing average water volumes in the SID. Water collected by the French Drain system, most of which does not now enter the SID, will, after treatment, be discharged through a buried pipe to the SID at a point due south of 881 Building. This discharge, though intermittent, will increase average flows in the SID, reduce their seasonality and may thereby enhance re-establishment and continuation of wetlands there.

DATES:

Any comments on the proposed action are due by:

ADDRESSES:

Send comments to: Appropriate DOE Official

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Attachment 2

Text for Wetlands Assessment for Construction of 881 Hillside Interim Remedial Action

Wetlands Assessment for Construction of 881 Hillside Interim Remedial Action

Project Description

The Department of Energy (DOE) proposes to construct an interim measure/interim remedial action under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)/Resource Conservation and Recovery Act (RCRA) involving construction of a system to collect, pump and treat groundwater at the 881 Hillside (Operable Unit 1) at the DOE's Rocky Flats Plant north of Golden, CO. Construction of the groundwater collection system will destroy up to approximately 1500 feet of the South Interceptor Ditch (SID), a man-made feature constructed as part of pollution control action. The SID is located in the Woman Creek drainage on a hillside above the Creek and was built to collect potentially-contaminated runoff from the southern portion of the Plant and transport it to Pond C-2 for subsequent treatment and release to local drainages. Wetland vegetation has become established at intermittent locations in the SID where pools of standing water remain for sufficient periods of time. Wetland area in the length of the SID from a point due south of 881 Building to C-2 Pond is approximately 0.15 acres (*Environmental Assessment for 881 Hillside [High Priority Sites] Interim Remedial Action*, page 4-6, USDOE, January, 1990); approximately half that amount will be affected by the proposed action.

The proposed action is excavation for, and construction of, a 2500-foot long French drain upslope of the SID and Woman Creek, installation of pumps and water transmission lines, and construction of a treatment plant and storage tanks. A trench will be excavated two-to-fourteen feet into bedrock across the 881 Hillside roughly parallel to the SID. The French Drain piping will be laid in the trench and an impermeable liner will be installed on the down-gradient side of the pipe prior to backfilling of the trench. The sides of the trench will be sloped to prevent caving during construction. For a distance of up to approximately 1500 feet, the trench and SID are close enough that the sloped excavation of the trench will overlap the SID, requiring the destruction of that portion of the SID and the attendant wetlands.

Water collected in the French Drain will be pumped approximately 900 feet through a buried pipeline directly up the Hillside to a collection tank. From the tank, it will flow to an adjacent treatment facility and then into a post-treatment holding tank. Treated water will be released through a second buried pipe to the SID at a point south of 881 Building.

Wetlands Effects

The direct, negative effect of the project will be the destruction up to approximately 1500 linear feet of wetlands in the SID. The natural and beneficial values of the small area of wetlands destroyed will be lost during construction of the French Drain (summer, 1991, through spring, 1992). This is anticipated to be a short-term effect because, upon completion of construction, the SID will be rebuilt in the same location as it presently exists. DOE proposes to allow the wetlands to re-establish themselves. This is expected to occur by the same mechanism by which the wetlands originally established themselves in the SID after it was first constructed (i.e., naturally). Upon re-establishment, all the natural and beneficial values of the wetlands are expected to return to the same extent, or greater, than they presently exist with wetlands of similar quality and survival potential. No permanent loss of wetlands is expected to occur as a result of the project. Operation of the project may, in fact, enhance future wetlands by virtue of increasing average flows and reducing the seasonality of such

flows in the SID. No long-term or indirect effects to wetlands are anticipated

During construction of the French Drain, a bypass will be built to conduct SID flows around the project area, protecting the normal supply of water to SID wetlands downstream of the construction site. Thus, the downstream wetlands should not be affected by the project.

Alternatives

No Action Alternative

The interim measure/interim remedial action of which the French Drain is a part is being undertaken under provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the Resource Recovery and Conservation Act (RCRA), and pursuant to an agreement between the DOE, the Environmental Protection Agency and the Colorado Department of Health (IAG). Both the statutes and the IAG require clean-up of contaminated sites at the RFP. In addition, contamination at the 881 Hillside presents a potential threat to public drinking water supplies, making its remediation imperative. The No Action Alternative is dismissed as not reasonable.

The following alternatives were considered in designing the interim remediation action alternatives for 881 Hillside:

Extraction Wells

In addition to installation of a French Drain to collect ground water for treatment, use of extraction wells was considered. This system involves construction of wells that are numerous enough and sufficiently close together that, when pumped, they remove all ground water in and around their location. This alternative would avoid excavation impacts to the SID. Because of the low permeability of the soils at 881 Hillside, such wells would have to be closely spaced.

Alternative Locations for the French Drain

Location of the French Drain is dictated by the need to be down-gradient of the plume of contaminated groundwater and above Woman Creek. There is a very confined strip within which these two necessary conditions can be met, and there is nowhere within the strip where impacts to the SID can be avoided. Moving the French Drain sufficiently up-gradient from its proposed location to avoid impacts to the SID would place it above the leading edge of the plume of contaminated groundwater. Moving it down-gradient would result in construction impacts to Woman Creek. The proposed location is the only one that will allow both conditions to be met.

Construction Techniques

It may be possible to reduce the length of the SID affected by construction of the French Drain by shoring the sides of the excavation. The bottom of the excavation will be from 6 to 25 feet deep and the soils at the site require support for excavations of such depth to prevent caving and for the protection of workers in the excavation. Three means of shoring were investigated. The first was use of sheet piling. This technique requires driving piles into bedrock and would result in fractures in the bedrock around the piles. This potential solution was rejected because the bedrock fractures would provide an avenue for contaminated groundwater to migrate into strata not otherwise accessible to it.

The second shoring method considered was sheeting and shoring. This technique involves installation of a system of cross-braces to hold the soil back. The cross bracing would make installation of the geo-textile and French Drain piping virtually impossible.

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The third possible means of preventing caving considered was use of a trench box. This device, consisting of parallel walls held apart by braces, would be moved along the bottom of the trench as construction progressed. Because trench boxes come in relatively short lengths, only very short lengths of the drain could be constructed at one time, making the French Drain infeasible. In addition, like sheeting and shoring, the bracing of the trench box would substantially interfere with construction activities, making installation of the geo-textile and French Drain piping virtually impossible. The trench box alternative was dismissed on these accounts.

Attachment 3

Text for letter to U.S. Army Corps of Engineers Requesting Determination on 404 Permit

Mr. Terry McKee
Department of the Army
Corps of Engineers, Omaha District
Tri-Lakes Project Office
9307 State Highway 121
Littleton, CO 80123-6901

Dear Mr. McKee:

The Department of Energy (DOE) is forwarding the attached information to your office for a determination as to whether the project described in the information falls under the Nationwide Section 404 Permit, or if a separate Section 404 Permit is required for the project. In addition, if your office determines that a separate Section 404 Permit is required, you are requested to consider the attached information as an application for such a permit.

The material being forwarded describes the project and includes a maps showing the location of the project and a drawing providing more detailed information.

Project Description

The Department of Energy (DOE) proposes to construct an interim measure/interim remedial action involving construction of a system to collect, pump and treat groundwater at the 881 Hillside (Operable Unit 1) at the DOE's Rocky Flats Plant north of Golden, CO. Construction of the groundwater collection system will destroy up to approximately 1500 feet of the man-made South Interceptor Ditch (SID). The SID is located on the 881 Hillside above Woman Creek and was built to collect potentially-contaminated surface runoff from the southern portion of the Plant and transport it to Pond C-2 for subsequent treatment and release to local drainages. Wetland vegetation has become established at intermittent locations in the SID where pools of standing water remain for sufficient periods of time. The SID wetlands were identified in *Wetlands Assessment, Rocky Flats Site*, EG&G, April 1990. Wetland area in the length of the SID from a point south of 881 Building to C-2 Pond is approximately 0.15 acres (*Environmental Assessment for 881 Hillside [High Priority Sites] Interim Remedial Action*, page 4-6, USDOE, January, 1990); approximately half that amount will be affected by the proposed action.

The proposed action is construction of a French Drain upslope of the SID and Woman Creek and approximately 2500 feet in length, installation of pumps and water transmission lines, and construction of a treatment plant and storage tanks. A trench will be excavated two-to-fourteen feet into bedrock across the 881 Hillside roughly parallel to the SID. The French Drain piping will be laid in the trench and an impermeable liner will be installed on the down-gradient side of the pipe prior to backfilling of the trench. The sides of the trench will be sloped to prevent caving during construction. For a distance of up to approximately 1500 feet, the trench and SID are close enough that the sloped excavation of the trench will overlap the SID, requiring the destruction of that portion of the SID and the attendant wetlands.

The water collected by the French Drain, most of which does not currently enter the SID, will be pumped through a buried pipeline directly up the 881 Hillside approximately 900 feet to a collection

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tank. From the tank, it will flow to an adjacent treatment facility and, after treatment, into a post-treatment holding tank. A second buried pipeline will return the water to the SID at a point south of the 881 Building.

Wetlands Effects

The project will destroy up to approximately 1500 linear feet of wetlands in the SID. The natural and beneficial values of the small area of wetlands destroyed will be lost during construction of the French Drain (summer, 1991, through spring, 1992). Upon completion of construction, the SID will be rebuilt in the same location as it presently exists. DOE proposes to allow the wetlands to re-establish themselves naturally. This is expected to occur by the same mechanism by which the wetlands originally established themselves in the SID after it was first constructed. Upon re-establishment, all the natural and beneficial values of the wetlands are expected to return to the same extent, or greater, than they presently exist with wetlands of similar quality and survival potential. No permanent loss of wetlands is expected to occur as a result of the project. Operation of the project may, in fact, enhance future wetlands by virtue of increasing average flows and reducing the seasonality of such flows in the SID.

During construction of the French Drain, a bypass will be built to conduct SID flows around the project area, protecting the normal supply of water to SID wetlands downstream of the construction site. Thus, the downstream wetlands should not be affected by the project.

Maps and Drawings

Attached are maps and drawings showing the location and details of the proposed project and location of wetlands in the project area.

Map 1 is a photocopy of a portion of the Louisville, Colorado, quadrangle map showing the location of the Rocky Flats Plant (RFP), and the 881 Hillside. As indicated on the map, the project is to be located in section 11, Range 2 South, Township 70 West, Jefferson County, Colorado.

Map 2 is of the 881 Hillside area and shows in more detail the locations of the South Interceptor Ditch as it crosses the Hillside and of Woman Creek.

Map 3 is a photocopy of a detail of a larger map showing wetlands at the RFP. The portion shown is of the project area. This map is from *Wetlands Assessment, Rocky Flats Site*, EG&G, April 1990. On this map is marked the approximate extent of the South Interceptor Ditch and wetlands that will be temporarily destroyed.

Drawing 1 is a detailed site plan for the water collection and treatment system, showing the components of the system, the locations of the South Interceptor Ditch and the French Drain, and the reach of the South Interceptor Ditch that will be affected by the project.

Please call Tom Olsen of my staff at 966-2762 if you need further information or have any questions.

Robert M. Nelson, Jr.
Manager
DOE, RFO

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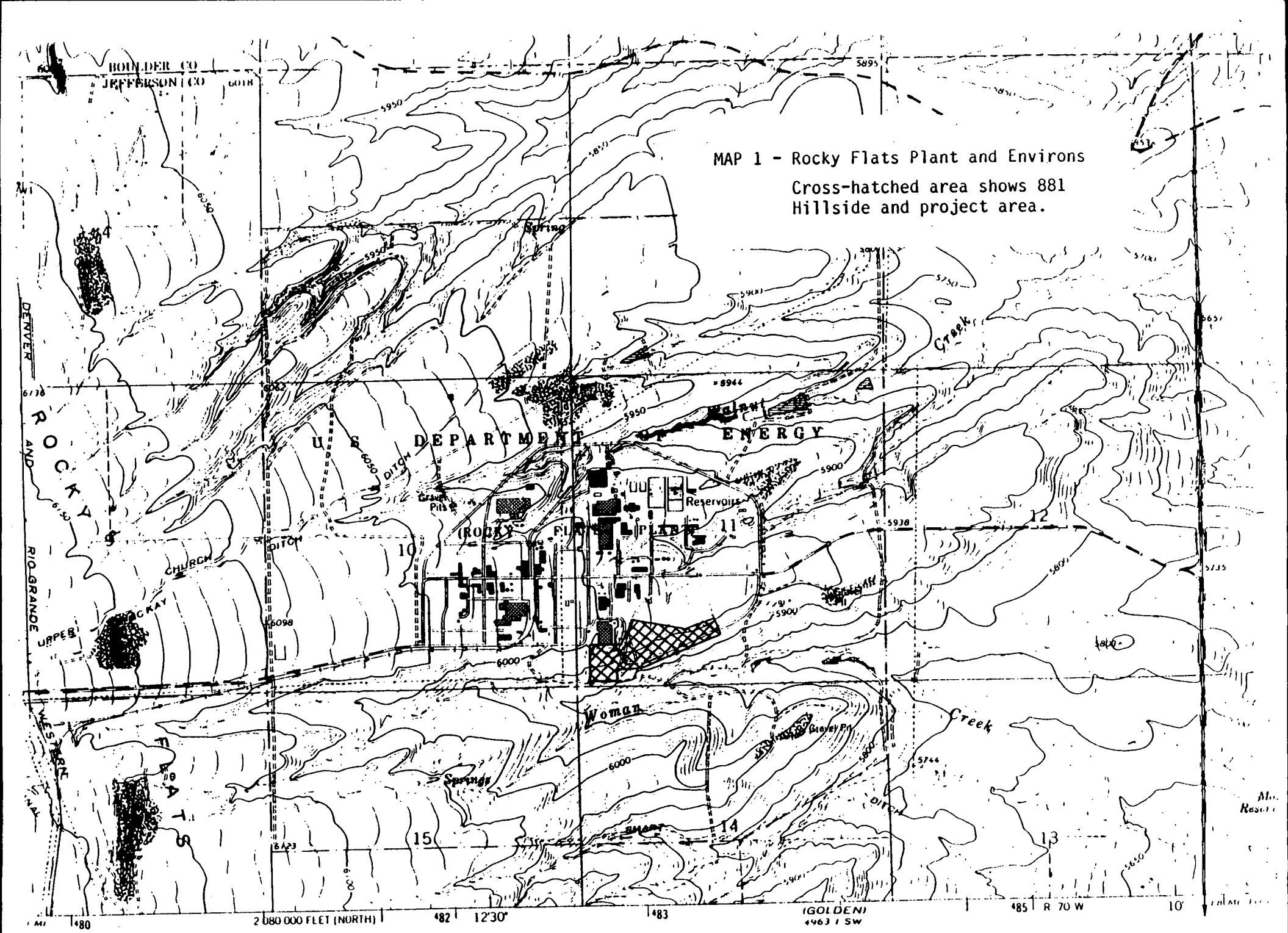
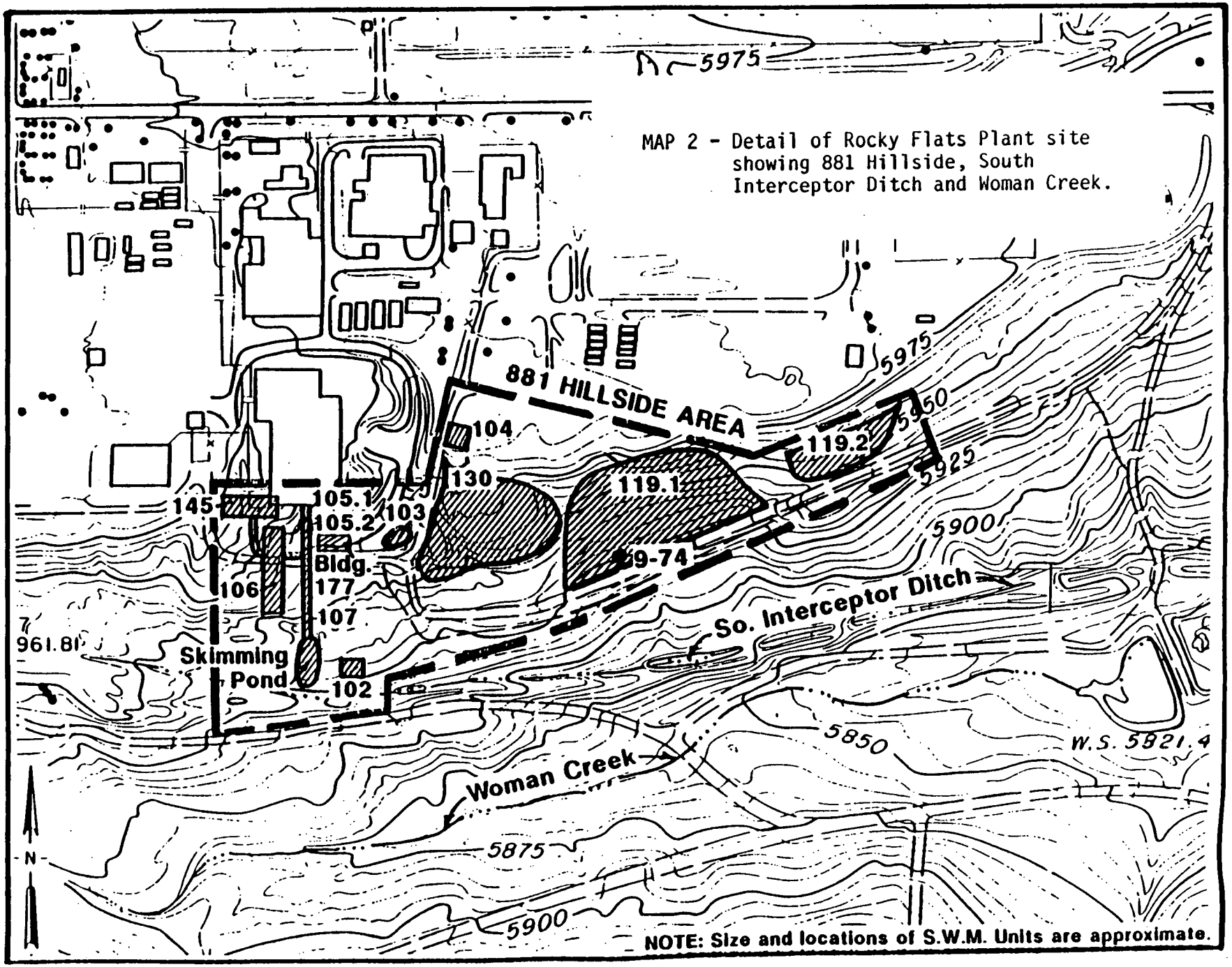
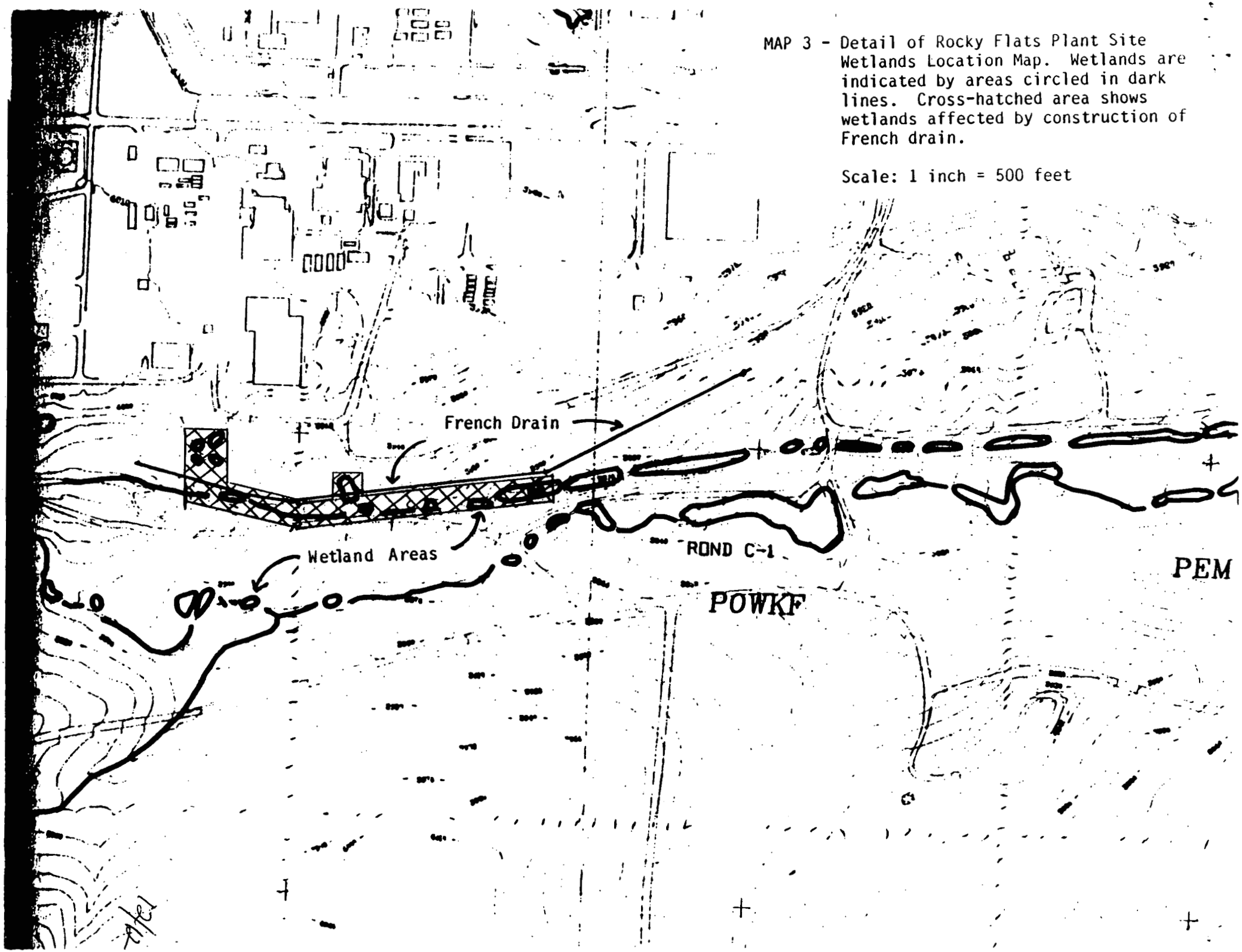


by the Geological Survey


MAP 2 - Detail of Rocky Flats Plant site showing 881 Hillside, South Interceptor Ditch and Woman Creek.
5975
881 HILLSIDE AREA
104
130
119.2
119.1
5950
5925
5900
145
105.1
105.2
103
Bldg. 177
106
107
961.81
Skimming Pond
102
9-74
So. Interceptor Ditch
5850
W.S. 5821.4
Woman Creek
5875
5900
N
NOTE: Size and locations of S.W.M. Units are approximate.

Scale: 1" = 385'±



MAP 3 - Detail of Rocky Flats Plant Site Wetlands Location Map. Wetlands are indicated by areas circled in dark lines. Cross-hatched area shows wetlands affected by construction of French drain.

Scale: 1 inch = 500 feet